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Procedia - Social and Behavioral Sciences 195 (2015) 1683 – 1687

**Procedia**  
Social and Behavioral Sciences

World Conference on Technology, Innovation and Entrepreneurship

# The Role of Health Literacy in Access to Online Health Information

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## Abstract

In recent years, the size of online information about health and diseases is increasing every passing day with the increasing use of technologies which facilitate access to information. However, health literacy plays a big role in selecting and using existing information in a correct way. It is a known fact that online health information, messages and news affect health behaviors of individuals. It is also observed that the number of websites that cover online health information news is increasing every day. Individuals can access to such health information using search engines and use the information in their lives without questioning the accuracy of information. Advancements in the information technology make it easier for an individual to access to online health information and expand the use of such information increasingly. Considering the magnitude of online health information, it is required for an individual to have high-level health literacy to access to correct information.

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Peer-review under responsibility of Istanbul University.

**Keywords:** Internet; Health Knowledge; Health Literacy.

## 1. Introduction

The ability of literacy is the leading ability in terms of making people active in social life and live their lives meaningfully. When it comes to health, this ability becomes extra important. On the other hand, control power of

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individuals decreases against health and disease circumstances and development of coping skills against these circumstances could make a contribution to the solution of problems (Aslantekin & Yumrutaş, 2014; Altin, Finke, Kautz-Freimuth, & Stock, 2014). Along with the usage of technologies that makes information access easier in recent years, information related health and illnesses increasingly appears on the web. It is a well-known fact that health-related information, messages, news on the web affect individuals' health behaviours. Individuals could easily reach online health information via search engines and implement these information into their lives without questioning their authenticity. Low health literacy level of the individual leads him/her to obtain health information from wrong sources on the web, to misinterpret those information and make the decision-making process to be negatively affected. The purpose of this study is to explain the role of health literacy in accessing health information via web.

### *1.1. The Concept of Literacy*

The concept of literacy, as revealing the fact that acts of writing and reading could not be separated, is defined as being the process of bringing verbal symbols mentally and expressing them together, and of transmitting mental expressions via writing (Gül, 2007). On the other hand, literate is defined in Modern Dictionary of Turkish Linguistic Society as “the educated person who can read and write” (TDK, 2014). When it comes to literature, it is seen that two different terms in terms of writing and reading linguistic skills, “reading-writing” and “literacy” are being used. In most general and traditional way, reading-writing is defined as reading and writing of written texts via alphabet. It is therefore possible to perceive the act of reading-writing as a process that occurs within the reader, text and writer triangle (Kurudayıoğlu & Tüzel, 2010). However, literacy is defined as “creating a life long learning awareness, improving this awareness, making individuals to gain new skills for more effective learning” (Nutbeam, 2001; Bernthard & Cameron, 2003).

### *1.2. Health Literacy*

According to World Health Organization (WHO), health literacy is cognitive and social skills of individuals about accessing, understanding and implementing health information in order to protect and improve well-being. American Medical Association (AMA) has defined this concept as the skill set including the ability of basic reading and of performing required digital tasks for functions within the scope of health services. Health literacy includes the ability of understanding prescribed drug specifications, appointment cards, medical training manuals, remarks of health care team members and informed consent forms and being able to cope with complicated health systems (Uğurlu, 2011). According to another definition, health literacy represents individuals' cognitive and social skills that determine their ability and motivation to access, understand and use the information in a manner that promotes and sustain well-being. Health literacy stands for reaching information, personal skill and trust level in order to take action with the purpose of improving personal and social health by changing personal life style and living conditions. Health literacy is therefore more than to be able to read manuals and toe the line. Health literacy which improves the capacity of people to access and use health information effectively is very important for authorization. The health literacy itself is dependent on more general levels of literacy. Low level of literacy could directly affect medical conditions of people by delimiting personal, social and cultural development and preventing health literacy (Zarcadoolas, 2006; Parvanta, 2011).

#### *1.2.1. Levels of Health Literacy*

Health literacy gives individuals an opportunity to manage health and health-related procedures actively. The person who is health literate should have the knowledge and ability to adapt him/herself to health life style and to make healthy choices. In this regard, health literacy is classified in different ways. In one of those classifications, health literacy consists of Operational Suitability, Interactive Suitability, Autonomy Suitability, Informational Suitability, Content Suitability and Cultural Suitability (Uğurlu, 2011). In another classification, according to behavioural features of individuals who display their cognitive and social skills, health literacy is considered on three

levels as basic/functional, communicative and critical health literacy (Nutbeam, 2001; Aslantekin & Yumrutaş, 2014).

Basic/Functional Health Literacy is based on basic reading and writing skills, and those who have those skills can read educational materials about health risks and use of medical services. In other words, basic literacy is to have competency on reading, writing, speaking, counting. This type of literacy branches into scientific information literacy, citizen literacy, cultural literacy. Scientific information literacy is to possess the skill related to science and technology containing awareness for several situations happened in scientific process. It is about knowing basic scientific concepts, having the ability of realizing complicated methods, understanding the technology. Citizen literacy is based on awareness for social issues, having abilities of getting involved in critical approach and decision-making process. Cultural literacy stands for the ability to realize and use collective beliefs, traditions, worldview and social identity in order to interpret and implement health information.

Communicative Health Literacy stands for having more literacy, social skills and cognitive gains. Individuals develop positive health behaviours by taking part in health activities and could implement the information they have for changing health conditions.

Critical Health Literacy requires having advanced cognitive gains, social skills and critical thinking skills. Individual could critically evaluate health information through these skills, improve personal and social capacity, behave according to social and economical determinants of health, understand political and economical aspects of health and interpret them (Nutbeam, 2001; Aslantekin & Yumrutaş, 2014).

### 1.2.2. Evaluation of Health Literacy

Health literacy has become more important at the late of 1990s and many scales have been developed in order to evaluate health literacy. These scales evaluate certain aspects of health literacy in addition to people's general literacy knowledge and skills. Some of them have been developed for clinical studies, some of them have been developed to evaluate larger communities. Some fields of health literacy and measuring devices peculiar to those fields can be found in Table 1 (Braden, Gonçalves, Ricci-Cabello et al., 2014; Dickson-Swift, Kenny, Farmer et al., 2014).

Table 1. Indications for general and content- or context- specific measures

Indication	Measures
<ul style="list-style-type: none"> <li>General health literacy</li> </ul>	<ul style="list-style-type: none"> <li>3 question; NAAL HL; SILS; CCHL; CHC; METER; Talking touch screen; Graph literacy; Health LiTT; CHL; TAIMI; MHLs; Canadian high school student measure; HLSI short form; SDPI-HH HL; Massey 2012 measure; CAHPS Item Set; AAHLS; HeLMS; HLQ</li> </ul>
<ul style="list-style-type: none"> <li>Dental/oral health literacy</li> </ul>	<ul style="list-style-type: none"> <li>REALD-99 (Rapid Estimate of Adult Literacy in Dentistry); REALD-30; To FHLiD (Test of Functional Health Literacy in Dentistry); OHLI (Oral Health Literacy Instrument); REALM-D (Rapid Estimate of Adult Literacy in Medicine and Dentistry); CMOHK (Comprehensive Measure of Oral Health Knowledge); BHLOHKP (Baltimore Health Literacy and Oral Health Knowledge Project survey); HKREALD-30 (Hong Kong Rapid Estimate of Adult Literacy in Dentistry); OHLA-S (Oral Health Literacy Assessment- Spanish); OHLA-E (Oral Health Literacy Assessment-English); REALMD-20 (Rapid Estimate of Adult Literacy in Dentistry-20); HKOHLAT-P (Hong Kong Oral Health Literacy Assessment Task for Paediatric Dentistry); OHL-AQ (Oral Health Literacy Adults Questionnaire); HeLD (Health</li> </ul>

	Literacy in Dentistry); Harper 2014 measure
• Diabetes literacy	• FCCHL
• Cancer literacy	• SIRACT; CMLT-L/CMLT-R
• Mental health literacy	• Reavley 2014 measure
• Nutrition literacy	• FLANKK; NLAI
• Hospital literacy	• HCAHPS Item Set
• HIV literacy	• HIV-HL
• Medication literacy	• MedLitRxSE
• Colon cancer literacy	• ACCL
• Intellectual disability literacy	• ILDS
• eHealth literacy	• eHEALS

### 1.3. Online Health Care Services and Health Literacy

Along with the increase in health information technology, new methods became a necessity to communicate with individuals/groups who need health care. Accordingly, healthy/ill people can access medical records, health service providers, hospital appointment systems via electronic media nowadays. Aside from public health care institutions, individuals can also access health information and the support they need via internet and mobile technologies. There are hundred of thousands mobile applications for improving human health which cover many issues from drug use management to weight loss. Today, internet has become an important source of information and supports the equality for accessing health services. It clearly has advantages such as access to information via internet, no need for a special or any location, access facility for 24 hours without time limit, the ability of patient to access the system without introducing him/herself, high possibility to reach other and even peer patients who have the same illness, prevention of doctor's unnecessary visit. Similarly, web sites and online forums give emotional support for the individual to obtain important health information and to overcome complicated health problems (Nicholas et al., 2003).

Developments in health technology positively affects quality, efficiency of health care and satisfaction from it. According to a study made in Eastern Europe, 20.2% of elders (23.4% male, 17.7% female) could use computer and only 23.7% of them could find web sites related to health. It is stated that elders's capacity of computer and internet using is similar to other countries and that there is no socio-demographic difference between elders who use and do not use internet (Gazibara, Kurtagic, Kistic-Tepavcevic et al., 2015). In another study made in order to determine the relation between health literacy of elders and usage of internet for accessing health information, it is stated that 31.9% of elders with sufficient level health literacy and only 9.7% of elders with low level health literacy use internet to access health information (Levy, Janke & Langa, 2015).

In the last three months, the rate of people in Turkey who searched online information related health increased from 54.1% in 2011 to 59.6% in 2013. If we explain it broadly, it is seen that among those who use the internet in 2013, almost 6 out of 10 goes online to obtain information related health. When internet users by 2013 are considered, the rates of using the internet with the purpose of searching information related health are 46.2% at countryside, 62.4% at urban life. (TÜİK, 2013). Those rates can be acknowledged as an indicator showing that the internet is being used in our country with the purpose of information sharing, informing and educating of patients as well as healthy people.

When the data from Turkey State Planning Organization's "Information Society Statistics" are studied, it is seen that 45.1% of individuals use online health information in order to obtain health-related information, 75% of those who have chronic illness applies treatment and care methods obtained from online environment. However, despite the fact that access to online health information is that much high, according to results from Turkey Health Union Health Literacy Research (2014) it is seen that insufficient or problematical health literacy is 64.6%, and sufficient and excellent health literacy is 35.4% (Tanrıöver et al., 2014)

When researches made in Turkey about health literacy are studied, it is determined that only limited studies exist

on this issue. In the one and only study made on this issue, it is determined that 22% of the participants use the internet to obtain health-related information (Aydın, Öztürk, & Kırbıyık, 2004).

## 2. Conclusion

Health literacy makes contribution to sharing responsibilities between health care providers and those who get health care, and to better mutual understanding for both sides in the course of communication. It is seen that health literacy affects many factors such as use of internet, mobile applications, demographical, socio-cultural and psychosocial factors, general literacy level, personal features, experiences about illness, health care system. It is determined that individuals with low level health literacy are hospitalized and use emergency department more often, participate into screening programmes less often, benefit from protective health services less often, have less information about their illness and treatments and even have an increased death risk (Uğurlu, 2011).

In addition to this, the time that health team members and the patient spend together is limited and the patient have to understand his/her health information within this time period. Understanding this information are not enough, accuracy and credibility of this information should be riddled through other sources. Today, individuals have an active role and wants to participate into care-treatment decisions. All of these targets can be reached by having high level health literacy. On the other hand, health information technologies, internet and online access become important for accessing health information. In this respect, health literacy is one of the most important factors that affect individual

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